

REMARKS / DISCUSSION OF ISSUES

Claims 1-3, 9, 15-21, 24, 26-42, 44-56, 58 and 59 are presently pending. Claims 44 and 58 are independent claims.

Objections to the Claims

The objection to claim 43 is moot in view of the present amendment.

Rejections under 35 U.S.C. § 103

Claims 1-3, 24, 26-27, 33-36, 41-44, 46-55 and 58-59 are rejected under 35 U.S.C. § 103(a) as being obvious in view of *Dunn, et al.* (U.S. Patent 5,200,334); *Lochhead, et al.* (U.S. Patent 6,039,897); *Anvir, et al.* (U.S. Patent 5,300,564); and *Swedeberg, et al.* (6,240,790).

Applicants note that this rejection is substantially identical to a previous rejection of the claims, as provided in the non-final Office Action. Applicants provided a complete response under Rule 111. To the extent fitting and proper, Applicants maintain their position rebutting the rejection and direct attention to the Rule 111 Response. The present response is intended to supplement the Rule 111 Response and, as applicable, address new or additional aspects of the rejection of claims.

Claim 44 is drawn to a method of preparing a microanalytical device. The method comprises:

*forming a sol-gel comprising an entrapped biological molecule, **crushing the sol-gel to particulates having a diameter of from about 10 μ m to about 80 μ m, and forming the sol-gel particulates into a bed within the microanalytical device or on the surface of the microanalytical device.***

Claim 58, which is drawn to a microanalytical device, includes similar features.

The Office Action concedes that the primary reference fails to disclose certain features of the claims. Specifically:

“Dunn et al. does not teach explicitly a method of preparing any microanalytical device containing sol-gel particulates comprising an entrapped biological molecule and having a diameter of from about 10 micrometers to about 80 micrometers, or a method of using the same microanalytical device.”
(Emphasis in original.)

The Office Action then directs Applicant to *Lochhead, et al.* for the alleged disclosures of the features not disclosed in *Dunn, et al.* The Office Action states:

“...Lochhead et al already disclosed a Micro-molding in capillaries (MIMIC) process for fabricating micronscale structures or devices for use in sensor, waveguide and integrated optics applications using a micro-molding fluid that is a sol that can comprise a variety of biologically active molecules including proteins, enzymes, antibodies, antigens and nucleic acid which bind to, or interact with analytes including other biologically active molecules (see at least col. 6, lines 9-62). Lochhead et al further taught an exemplified fluid channel that is an element of a micro-fluidic chemical analysis system with appropriate means for fluid sample introduction and a means for detecting indicator response to a particular analyte that may be present in fluid passed through the micro channel (see Fig. 5, and col. 9, lines 37-62).” (Emphasis in original.)

Furthermore, the Office Action turns to a tertiary reference in an attempt to cure the defects of the primary and secondary references:

“Avnir et al. (US 6,159,453) also taught that doped sol-gel particulates or powder in any shape with 0.01-100 microns in diameter were successfully made for delivering sunscreen molecules (see at least the abstract; col. 2, lines 53-62; col. 4, lines 42-47; col. 6, lines 28-32).” (Emphasis in original.)

Applicants note that at the very least, there is no disclosure, teaching or suggestion of the use of Avnir's sol-gel materials in any application other than sunscreen. Clearly, there is no reason whatsoever for one skilled in the art of microanalytics to turn to a lotion for protecting skin, hair and nails from the ravages of UV radiation in an effort to address shortcomings and deficiencies of known microanalytic devices and methods at the time of Applicants' invention.

Respectfully, but for the distortion caused by hindsight bias and reliance upon *ex post* reasoning would there be any basis whatsoever for turning to a sunscreen product in rejecting the claims under present examination. Specifically, Applicants submit that the rejection is cobbled from pieces of information garnered from a totally unrelated field of endeavor. It is wholly unreasonable for one to expect that a scientist or engineer looking to improve chromatography or other microanalytical chemical test would search a field (sunscreens) so disparate to his/her field of endeavor. As such, Applicants submit that the rejection of claims 44 and 58 are wholly improper and should be withdrawn. Thus, claims 44 and 58 are patentable over the applied art, as are all claims that depend directly or indirectly therefrom.

Response to Examiner's Response to Arguments

The Examiner provided a response to Applicants arguments in support of patentability. Applicants have reviewed these remarks and respectfully rebut certain assertions made.

First, Applicants note a careful review of each applied reference was made in addressing the rejections. Applicants' attorney is afforded some liberty as to what aspects of a rejection to specifically address; and such liberty was taken. Moreover, while the undersigned is aware of many treatments by the Federal Courts at many levels (and especially the CAFC), he is unaware of any standard that relies on a 'totality of the teachings' standard. The Courts have set down certain applicable standards of

obviousness, which among other considerations, caution against the use of hindsight knowledge of Applicants claims in rendering decisions of patentability and validity.

Second, Applicants respectfully but strongly traverse the assertion that any form of hindsight reasoning in the determination of patentability is improper. The Court in *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727; 82 U.S.P.Q.2D 1385 (2007) noted that “A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning. See *Graham*, 383 U.S., at 36, 86 S. Ct. 684, 15 L. Ed. 2d 545 (warning against a “temptation to read into the prior art the teachings of the invention in issue” and instructing courts to “guard against slipping into the use of hindsight” (quoting *Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co.*, 332 F.2d 406, 412 (CA6 1964))).” Moreover, if there is no suggestion to combine the teachings of the applied art, other than the use of Applicants’ invention as a template for its own reconstruction, a rejection for obviousness is improper. *Ex parte Crawford, et al.* Appeal 20062429, May 30, 2007. Applicants’ traversal of the combination of references both in this response and the response under Rule 116 point out facially apparent uses of hindsight reasoning (such as the use of a reference related to a sunscreen in the rejection of claims directed to microanalytical devices and their methods of use).

Thus, and for at least the reasons set forth above, Applicants respectfully submit that the rejections of claims 1-3,24, 26-27,33-36,41-44,46-55 and 58-59 is improper and should be withdrawn.

Conclusion

In view the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance.

If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted on behalf of:
Agilent Technologies, Inc.

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